

Discourse: a new theoretical framework for examining information behavior in its social context

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INTRODUCTION

This paper outlines a theoretical framework for examining information behaviour of groups, based on the concept of 'discourse' first put forward by the French philosopher and historian Michel Foucault. The paper follows Talja (1996), in using discourse as a metatheory to underpin information behaviour research but holds that information behaviour researchers need to find their own methods for exploring the issues raised by discursive theory. The paper begins by outlining some of the major concepts that distinguish this 'discourse analytic' approach from existing approaches to group based information behaviour research. The paper also proposes a methodology for examining information behaviour in the context of a discourse analytic approach. This methodology uses the results of author co-citation analysis, as pioneered by White & Griffith (1981), in order to identify discourses within a broad subject area or knowledge field. These discourses are then used as the basis for further study using social network analysis (Haythornthwaite, 1996). The aim of this second stage in the research process is to develop an understanding of the role of discourse in shaping information behaviour through understanding the nature of the relationships within the discourse.

The paper puts forward 'discourse' as an alternative to current approaches to group-based information behaviour research based on 'user' or 'target' groups. Many prevailing approaches to information behaviour research can be broadly divided into those that describe rather than theorise about information behaviour and those that seek to explain information behaviour by focusing their theoretical attention on the individual information user. This paper outlines a

different approach in which the group (or discourse) itself is of central theoretical importance to the understanding of information behaviour. In addition, this paper will argue that while many of the current approaches tend to conceive of information users, information systems, and their social context as discrete entities, albeit entities that interact, discourse is a more holistic approach that sees all these elements as nodes in a network of power relationships.

THE DISCOURSE ANALYTIC APPROACH

This section will outline some of the key features of the discourse analytic theoretical approach, as outlined in Foucault's writings, concentrating on concepts central to undertaking information behaviour research using the paper's framework, such as *discourse*, *archive* and *discursive rules*.

Discourse

'Discourse' is the uniting theoretical framework of the discourse analytic approach. Discourse should be seen as a complex network of *relationships* between individuals, texts, ideas and institutions, with each 'node' impacting to varying degrees on other nodes and on the dynamics of the discourse as a whole. It is the nature of this relationship and its impact on information behaviour that, this paper contends, warrant examination by IS researchers.

As used in this approach to information behaviour research, 'discourse' can be broadly equated with the concept of a *discipline* (McHoul & Grace, 1993) or, perhaps more accurately, a school of thought. Discourse will include, but is not solely confined to, *scholarly disciplines*, such as medicine or medieval history, it can also include many other professional and even organised leisure fields, such as accountancy or athletics.

Discourse can also include *disciplinary institutions*, such as prisons, universities and libraries. Discourses do not, however, necessarily equate with common institutional 'labels' or 'boundaries'. While some academic or professional disciplines may be dominated at a given time by a particular discourse, others may include a number of distinct discourses at a given point in space and time. For example, Frohmann has suggested that the information science sphere includes a variety of different discourses (Frohmann, 1994).

Discourse is often portrayed as an abstract, theoretical concept, this paper follows Foucault in arguing that any discourse is fundamentally tied to its particular socio-historical context and can not, in the discourse analytic approach, be studied or understood if divorced from this context. "*For Foucault there is... no universal understanding that is beyond history and society*" (Rabinow, 1984, 4).

Discourse Communities & Discursive Rules

Although discourse is often seen as a way of looking at texts or ideas, it is also, significantly for information behaviour, a way of looking at and grouping *communities*. In the discourse analytic approach, a *discourse community*, is a group of people who, at least in the context of a particular role, hold a recognized body of 'truth statements' in common. The discourse communities of the chosen field form the basis of research using this paper's methodology.

In discourse theory, a discourse community will not accept a given statement is true in a random or ad hoc way, rather it will have a set of 'rules', either formal or implicit, but widely recognized within the community, by which a 'truth statement is 'validated'. These 'discursive rules' shape not only the *form* that a valid truth statement can take in that discourse but also, more fundamentally, will dictate what *can be said* in the context of that discourse.

In the discourse analytic view therefore, understanding the discursive rules operating in a particular discourse community forms a fundamental part of understanding the information behaviours of members of that community. For example, a researcher will not regard the results of a qualitative research study as 'good' if the rules of his/her particular discourse regard qualitative data as 'imprecise'. In addition, an information user can only evaluate a concept, whether it be the theory of relativity, anomalous states of knowledge or the off-side rule in soccer, if there is an existing discursive context for discussing such concepts with which they are familiar. This construction of information behaviour has profound implications for the way information behaviour is researched and interpreted. Information behaviour can only be understood in its discursive context, with an understanding of the discursive rules operating in that context. This paper offers one framework for examining information behaviour in such a context.

Truth Statements, Texts & the Archive

In discourse theory, 'truth statements are embedded in 'texts'. A 'text' in this sense need not be a formally published document but can take any form that the particular discourse community recognizes as 'legitimate'. Thus, in the context of an academic discourse, a journal article, a lecture by a visiting professor, email correspondence with an overseas colleague and even conversations between peers would all potentially constitute 'valid' truth statements.

The set of common 'truth statements' held by a particular discourse community, are known as the *archive*. An archive represents not simply a collection of texts, but rather a particular *interpretation* of these texts that the particular discourse community holds. For example, Kuhn's work on paradigms

is interpreted differently and has had a different influence in the discourses of information science than in those of the history of science. A single text, the Bible being a useful example, may have hundreds of different 'identities' for different discourse communities at different points in space and time. What is important in the discourse analytic approach to information behaviour is understanding what it means in the context of a given discourse at a particular place and time.

Power - the Dynamics of Discourse

If discourse is a network of relationships between members of the discourse community, affiliated institutions and the archive, the question remains what is the nature of this relationship? In the discourse analytic approach, the discursive relationships are based on the generation and the operation of *power*. In this view, the creation, dissemination of 'texts', the 'weighting' of one 'text' more than another all involve both the exercise and the generation of power.

Discourse should therefore be seen not as a fixed structure but rather as a series of dynamic power relations, constantly re-inventing and re-affirming itself through the process of applying the discursive rules to examine new 'texts' and to re-examine existing ones: "*There is a battle 'for truth' or at least 'around truth' - it being understood once again that by truth I do not mean 'the ensemble of truths which are to be discovered and accepted' but rather 'the ensemble of rules according to which the true and the false are separated and specific effects of power attached to the true.'*" (in Rabinow(ed.), 1984, 418).

Thus, if a discourse community hold a given text to be 'true', this acceptance imbues it with a certain power in the context of that discourse. This power will also, to a degree, flow on to the author as an 'authoritative speaker'. Similarly, this process may also imbue certain institutions with power in the context of the discourse, as somewhere that collective past experience has shown to produce 'good information'. This way of looking at information in terms of power relations is one we all use in everyday speech, when we say that a book or article is 'authoritative' or say that a particular university has a 'strong reputation' in a particular field.

Thus the pre-existing network of power relations within a discourse will clearly have a profound effect on the information behaviours of members of the discourse community since they are likely, for example, to seek out and value more highly, 'texts' produced by authors and institutions that are already considered 'powerful' within the discourse.

Discourses are not 'closed systems, but rather are themselves part of a broader societal context. Power relations will also occur between discourses as well as within them, as discourses themselves form part of a broader network of power relations - the *episteme*. 'Stronger' discourses will be more widely

influential outside the boundaries of their own discipline, while 'weaker' ones may seek to bolster their own position by adopting theories and methodologies from 'stronger' discourses. The heavy use of 'outside' approaches among information scientists might, for example, be interpreted in this way.

The next section explores some of the characteristics which distinguish the discourse analytic approach and the advantages the approach may have for understanding information behaviour

DISCOURSE - ADVANTAGES & DIFFERENCES

In the discourse analytic approach: "*The unit of study is a particular area of information seeking, a concrete subject area or a knowledge field*" (Talja, 1996, 10). In other words, in the discourse analytic approach, the unit of analysis is not the individual but the discourse itself. In this it fundamentally differs from existing approaches to group-based study of information behaviour. While some existing theoretical approaches (such as Dervin's 'sense-making' and Wilson's social phenomenology) do consider the role of social forces on information behaviour, they treat them as factors which affect the *individual information user* (which remains the unit of analysis). This approach, focused on the discourse, is more closely related to the collectivist "*domain analysis*" approach of Hjørland & Albrechtsen (1995) among existing IS approaches.

Talja has explicated the difficulties associated with working with the cognitivist model of information users as being driven by gaps in their knowledge-structures: "*If the users are seen as uncertain people who need help, there is a risk that the objective of helping the users is implicitly grounded on a faith in objective expert knowledge existing outside history, social relations and contradictory interests*" (Talja, 1996, 14). In addition, a number of authors, including Frohmann (1992) and Lyotard (1984), have pointed out, that cognitivist and marketing-based approaches, can lead to a conception of information behaviour as a series of 'exchange-events' and thus lead to a trend towards an increasing *commodification* of both information users and of information itself. The discourse analytic approach allows for a new conception of information needs as arising "*more from selected interests and cultural expertise than from the lack of knowledge*" (Talja, 1996, 13).

Secondly, as stated previously, where as many current approaches tend to conceive of information users, information systems, and their socio-political context as discrete theoretical entities, albeit entities that interact, discourse is a more holistic approach that unites all these elements in a single theoretical model. Users, institutions and information products and services are all 'nodes' in a dynamic network of power relationships.

Discourse theory also offers the potential to form the basis of IS behaviour research that goes some way towards answering Dervin and Frohmann's

criticism of existing approaches - that they ignore the role of societal inequities in shaping information behaviour (Dervin, 1989; Frohmann, 1994) by providing an appropriate theoretical framework for examining issues of power relations and because of the theoretical link it makes between the socio-political context of discourse and information behaviour. By explicating power relations, such research can help us understand societal inequities in access to information and, ultimately, can serve as a vehicle for change.

While the discourse analytic approach offers information science many exciting theoretical possibilities, it is also important to consider its methodological implications. The paper will now outline on framework for examining information behaviour using a discourse analytic approach.

AUTHOR CO-CITATION ANALYSIS - MAPPING DISCOURSE?

The first aim of a research methodology seeking to employ a discourse analytic approach to studying information behaviour must be 1) "*to identify the different knowledge formations, or discourses inside... (the chosen)... field.*" (Talja, 1996, 10) 2) determine the discursive affiliation of individual members of that field. The methodology will also need to tell us something about the discourses' archives.

One potential basis methodology lies in the largely literature-based studies undertaken by Foucault himself or others who have adopted his methodologies, including Frohmann and Radford's works on information science and related fields (Frohmann, 1992; Frohmann, 1994; Radford, 1992; Radford, 1994; Radford & Radford, 1997).

This paper, however, advances an alternative framework for the preliminary identification of discourse communities within disciplines and the discursive affiliation of individual members. This uses a methodology already in use among information science researchers: author co-citation analysis, as developed by White & Griffith in their 1981 study of the literature of information science.

Author Co-citation Analysis - Definitions & Assumptions

Author co-citation analysis, "*is a set of data gathering, analytical and graphic display techniques that can be used to produce empirical maps of prominent authors in various areas of scholarship.*" (McCain, 1990, 433). Co-citation analysis is based on the fundamental premise that "*the greater the number of times a pair of documents are cited together the more likely it is that they are related in content*" (Bellardo in Bayer et. al., 1990, 444). Whereas earlier work, such as Small's, used individual scientific papers as the unit of analysis, author co-citation analysis as pioneered by White & Griffith is "*based on the frequency*

by which *any work by an author is linked to any work by another author in a third and later work*" (Bayer et. al., 1990, 444).

Author co-citation analysis is based on the concept of the "*oeuvre - a body of writings by a person - and not the person himself*" (White & Griffith, 1981, 163). This important distinction, not always made by bibliometric researchers, in many ways parallels the distinction drawn in discourse theory between the author as a discursive construct and the author as a physical being. This parallel already suggests the possibility of a discourse analytic interpretation of co-citation analysis data. In dealing with the whole body of an author's writings in the chosen field, a discourse analytic interpretation would argue that what is being mapped is a profile of the author's 'discursive identity', at least as a producer of published 'texts' (additional methodological techniques will need to be employed in order to investigate how this may differ from the author's 'informal' discursive identity).

While existing co-citation analysis studies do not explicitly link their work to a discourse analytic theoretical perspective, the discursive nature of what these studies measure may be judged by statements such as: "*The positioning, it should be emphasized, is based on the composite judgment of hundreds of citers, rather, than on any one person's judgment. In effect it is the field's view...*" (White & Griffith, 1981, 163); and White & Griffiths contention that the groups formed by co-citation analysis are groups "*akin to schools*" (White & Griffith, 1981, 165). This can readily be given a discourse analytic interpretation: that what is being measured by co-citation analysis is the composition of the archives (or rather their formal, published component) of the discourses in the field, as determined by the discourse community members through the application of their discursive rules, as seen through the other formal, published 'texts' in the discourse.

Furthermore, quantitative analysis of co-citation analysis data using Johnson clustering, factor analysis etc. has shown that these 'author profiles' form coherent groups. Author co-citation analysis has been used successfully to 'map' a number of disciplines, including information science (White & Griffith, 1981; White & McCain, 1998), communications (Paisley, 1990), research in organizational behaviour (Culnan et. al., 1990), and fiction studies (Beghtol, 1995).

This paper therefore puts forward the hypothesis that the groupings created by author co-citation analysis can be used as a quantitative representation of the discourses of a given field. Author co-citation analysis offers the potential to provide us with at least a preliminary profile of the discourses operating in the field being studied. It can therefore be an important tool in identifying for examination the discourses of many academic and professional groups where the researcher has ready access to a large body of published work in the field.

The paper, however, follows Lievrouw(1988), in arguing that the narrow focus of bibliometric approaches such as co-citation analysis, which examine only the formal outputs of information behaviour (the bibliographies of published journal articles), mean that such studies can not in themselves provide us with sufficient information to understand the nature of the groups they represent. While its proponents are entirely correct in suggesting that author co-citation analysis is an ideal tool for providing an independent, quantitative map of the specialties and sub-fields of a discipline and the authors prominently associated with them, it can not, of itself, tell us enough about the nature of the social dynamics and relationships between the authors. While we can reasonably hypothesise, that the groupings produced by co-citation analysis represent "*a simple indicator of more complex underlying behaviors or social relationships*" (Lievrouw, 1988, 55) , co-citation analysis alone can not provide enough evidence to support this. The inability to provide such sufficient evidence underpins much of the criticism of bibliometric approaches as being "*sterile mathematics*".

SOCIAL NETWORK ANALYSIS - INVESTIGATING DISCOURSE & INFORMATION BEHAVIOUR

The next aim of discourse analytic IS research must be to investigate the hypothesis that the groupings produced by co-citation analysis represent a quantitative indicator of discursive affiliation, in order to explore the relationship between such affiliation and information behaviour, both formal and informal. A more holistic methodological approach will be necessary, using the results of co-citation analysis as its basis. Since rich, contextualised material will be needed to explicate these questions, a qualitative approach would seem to be appropriate (Mellon, 1990; Patton, 1990). In developing such an approach, the author feels that many of the qualitative techniques and methods developed by IS researchers over the last decade may be readily adapted to this new application. Interestingly, Lievrouw, in critiquing the weaknesses of purely bibliometric approaches, suggested that "*techniques typical of user studies in the information science tradition ... might be helpful*" (Lievrouw, 1988, 55). One technique already used by IS researchers, that may be particularly useful in this context is the social network analysis approach described by Caroline Haythornthwaite (1996).

Social network analysis "*focuses on patterns of relationships between actors*" (Haythornthwaite, 1996, 323). Actors "*may be individuals, but they may also be organizations or institutions...*" (Haythornthwaite, 1996, 324). Originally developed to examine tangible, economic relationships (Wellman, 1988), it has been successfully adapted to examine those based on "*intangibles such as information, social support, or influence*" (Haythornthwaite, 1996, 323-324).

As a non IS-specific methodology, social network analysis is not intrinsically 'wedded' to a discourse analytic theoretical perspective, or any other theory of information behaviour - Haythornthwaite's emphasis on 'information exchange' suggests an implicitly objectivist epistemological basis for her own research. Nonetheless, it seems to the author that its "*focus on patterns of relationships*" (Haythornthwaite, 1996, 324) and its contention that "*the world is made up of networks not groups*" (Wellman, 1988, 37) makes it a methodology that is highly compatible with discourse theory. This paper therefore contends that social network analysis is an appropriate methodology for examining the question of whether co-citation analysis is a functional indicator of discourse/s within a field or merely produces bibliometric chimaeras.

Social network analysis is a qualitative approach, using questionnaires or in-depth interviews to in order to collect richly contextualised research material about the *nature* of the participants' information relationships. As with co-citation analysis, social network analysis can be used to generate graphical representations of the field being investigated: "*Regular patterns of relationships reveal themselves as social networks, with actors as nodes in the network, and relationships between actors as connectors between nodes.*" (Haythornthwaite, 1996, 324).

Again as with co-citation analysis, the amenability of such an approach to a discourse analytic interpretation, seems to the author to be particularly striking. It is therefore this paper's contention that a useful method of learning more about discourse in the context of information behaviour research would be to use the results of co-citation analysis, as the basis for a more holistic study of the same field using social network analysis

CONCLUSIONS

The discourse analytic approach in information behaviour research is still very much in its infancy and no doubt as it develops, new methodologies better suited to the discursive context of IS research will develop. This paper acknowledges that the full theoretical implications of discourse for information behaviour is not yet clear and that many issues related to what 'discourse' means in this context remain unresolved. These issues can only become clearer, however, as a greater body of research by information scientists adopting the discourse analytic approach provide us with a basis for further theory construction.

Nonetheless, this paper offers one potential methodological framework for beginning to explore discourse in the context of information behaviour research. The author intends, in completing his doctorate at the University of Technology, Sydney, to complete a study, using the outlined methodology, of the discourses of contemporary information science research. Among the reasons for applying the approach to our own field was the same as that given by White & McCain in

their study: that IS researchers "*will best be able to judge its validity when it is applied to their own field*" (White & McCain, 1998, 327).

While starting with a basis in Foucault's theories, the author anticipates that as the discourse analytic approach develops, IS researchers will develop new perspectives of their own on discourse, as they adapt Foucault's ideas to the context of examining information behaviour. Indeed there are some issues relating to discourse, such as the exact relationship between the author-as-discursive-construct and author-as-personal-information-source, or the impact of one discursive role (e.g. researcher) on others an individual may also have (e.g. parent or tennis player), which information behaviour researchers, with their expertise in qualitative research methods and the study of informal information behaviour, seem well suited to explore.

Serendipitously, the widespread adoption of this paper's approach may serve to build bridges across the major discursive 'divide' implicit in the results of White & McCain's co-citation analysis of information science (White & McCain, 1998) - that between 'bibliometricians' and 'information behaviourists' (to use White & McCain's labels). This paper's approach draws on methodologies from both traditions, and, in light of the growing interest in social constructivist and collectivist approaches evident among IS researchers in both communities (e.g. Talja, 1996; Vakkari, 1996; Hjørland & Albrechtsen, 1995; White & McCain, 1998), it may be the precursor of a new era of joint studies between members of these at present discursively distinct communities.

So we can see that the discourse analytic approach offers the information behaviour researcher a fundamentally different way of looking at information behaviour. Whereas existing approaches appear to view group-based information behaviour research as a practical expediency while theoretical attention is focused on the *individual* information user, the discourse analytic approach outlined here takes a much more collectivist approach where the discourse itself is conceptualised as the fundamental, shaping influence on information behaviour. Moreover, discourse is posited as a holistic approach that conceptualizes information users, institutions and information systems in a single theoretical framework, as nodes in a network of socio-historically located power relationships, rather than as discrete theoretical entities. Appropriately for this conference, the discourse analytic approach not only places information behaviour in its social context, it represents a metatheory *centred* on socio-political context as the primary factor that shapes all aspects of information behaviour.

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